SPECIFICATION

Model No.	ES-9AH2810D
IMAGE SENSOR	1/ 3" 960H Color CCD Sensor
EFFECTIVE PIXELS	976(H) X 582(V)
SYNC.FORMAT	INTERNAL
RESOLUTION	HORIZONTAL 700TVL
VIDOE OUTPU T	1.0V (P-P) NTSC COMPOSITE,75Ω
MIN. ILLUMINATION	0.00LUX (IR LEDOn)
IR CONFIGURATION	18 IR LEDs (850nM)
S/N RATIO	52dB (AGC OFF, WEIGHT OFF) OR MORE
OSD	BUILT-IN
AGC	OFF / LOW / MIDDLE / HIGH-SELECTABLE
SHUTTER	AUTO / FLK / MANUAL / 1/50
SENS-UP	OFF / AUTO (X2~X256)
BRIGHTNESS	1~100 STEPS (LEVEL ADJUSTABLE)
D-WDR	ON/OFF Level Selectable
BLC	LOW / MIDDLE / HIGH SELECTABLE
HSBLC	LOW / MIDDLE / HIGH SELECTABLE
WHITEBALANCE	ATW / AWB / AWC -SET / MANUAL
DAY / NIGHT	COLOR / AUTO / EXT / B/W SELECTABLE
SMART 3DNR	ON/ OFF SELECTABLE
D-EFFECT	FREEZE / MIRROR/ ZOOM / NEG. IMAGE
MOTION DET.	4 AREA
PRIVACY MASKING	8 AREA
D-ZOOM	ON / OFF (X32)
SMART D-ZOOM	ON / OFF (X5)
DIS	ON / OFF SELECTABLE
LESN SHADING CORRECT.	ON / OFF SELECTABLE
LENS	TDN2.8-12MM AUTO IRIS
POWER SOURCE	12VDC / 24VAC (OPTIONAL)
POWER CONSUMPTION.	400mA @12VDC
OPERATIONALTEMP.	-10Deg. C ~ +50 Deg. C RH95% MAX.
STORAGE TEMP.	-20Deg. C ~ +50 Deg. C RH95% MAX.
WEIGHT	1.65Kg

GENERAL FEATURES

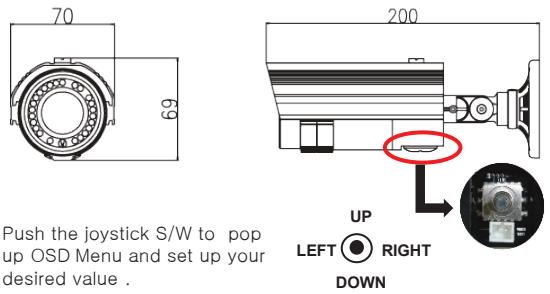
1. HORIZONTAL 700TVL RESOLUTION
2. 18 IR LEDs CONFIGURATIONWITH 30MTR IR DISTANCE
3. MECHANICAL TRUE DAY / NIGHT
4. SMART NOISE REDUCTION
5. SENSEUP X256
6. D-WDR (WIDE DYMAIC RANGE)
7. DEFOG
8. SMART DIGITAL ZOOM
9. MOTION DETECTION & PRIVACY MASKING
10. DIS (DIGITAL IMAGE STABLIZER)

PACKAGE CONTENTS

Please make sure the following items are included in the package

1. 1 pc of Camera
2. 3pcs of Mounting Screws
3. 1 Pc of Manual
4. 1 pc of Sunshield

OSD CONTROL & DIMENSION



• Push the joystick S/W to pop up OSD Menu and set up your desired value .

UP
LEFT RIGHT
DOWN

OSD MENU TREE & MAIN MENU

- LENS
  - DC LENS ● MANUAL ● VIDEO
- EXPOSURE
  - SHUTTER ● AGC ● SENS-UP ● RETURN
- BACKLIGHT
  - OFF ● D-WDR ● BLC ● HSBLC
- WHITE BAL.
  - ATW ● AWB ● AWC->SET ● MANUAL
- DAY & NIGHT
  - COLOR ● AUTO ● EXT ● B/W
- SMART 3DNR
  - VALUE ● SMART NR ● SMART LEVEL ● SENSITIVITY ● RETURN
- F-DNR
  - OFF ● AUTO ● MANUAL
- FUNCTION
  - MOTION ● PRIVACY ● D-EFFECT ● IMAGE ADJ.
  - COMM ADJ. ● SYNC ● LANGUAGE ● RETURN
- EXIT

1) LENS <DC LENS / MANUAL>

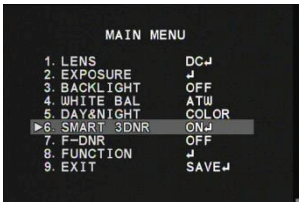
- Recommend Lens set as the designated camera default

DC LENS <Brightness / IRIS Speed / Return>

Brightness : 1-100 steps adjustable

Iris Speed : If necessary, control Iris speed (5 steps)

MANUAL <Brightness / Return>



SETUP Menu Functions

2) EXPOSURE
<SHUTTER/ AGC / SENS-UP / RETURN>

SHUTTER :

Adjust shutter settings : Auto / FLK / Manual / 1/50 /1/60
- AUTO mode adjust shutter speed automatically.
- FLK mode reduces on-screen flickering.
- Manual mode allows you to adjust the shutter speed from 1/50,1/60, 1/100000 ~X2~X256.

AGC (Auto Gain Control) : Off / Low / Middle / High
- Control Gain Noise to get proper image quality.
- Set AGC Mode as High to get brighter image but more noises of the picture.

SENS-UP : On / Off
- Automatically detect light level and maintains a clear picture. Set a desired levelupto X256.

Return

3) BACKLIGHT
<SHUTTER/ AGC / SENS-UP / RETURN>

D-WDR : (Wide Dynamic Range) :
- To distinguish an object in both bright and dare areas
- Set desired Low & High level. 0~15 level selectable
- Return : Return the main menu.

BLC : Deliver a distinctive subject and background at the same time, even when the subject is in backlight
- Value : Low / Middle / High selectable
- Area : Single / Double mode supported. Set the BLC position and size.
- Default : Go back to Factory Default setting value.

HSBLC : To mask a strong light at the designated area.
- Gain : Set the desired HSBLC Gain level. (000 Steps)
- Mode : Set the desired mode. (Night only / All Day)
- Mask Level : Set the desired mask level. (0100 Steps)
- Default : Go back to Factory Default setting.
- M. Skip Area : Designate an area which you want to skip.

Return

4) WHITE BAL.
<ATW / AWB / AWC-SET / MANUAL>

ATW : Auto Tracking White Balance.
- Use this mode when the color temp. is between 1,800~10,000K

AWB : Auto White Balance with the factory default value.

AWC->SET :
- To find the optimal setting for current luminance environment in this mode. Set the point the camera towards a sheet of white paper and press the Joystick S/W. If the environment changes, readjust it.

MANUAL
- To fine-tune White Balance manually. Set White balance first by using ATW or AWC mode before Manual mode. After that , if there is still a white balance issue, switch to manual mode and have a fine-tune. Manual mode allows you to increase or decrease the red or blue factor.

5) DAY / NIGHT <COLOR / AUTO / EXT / B/W>

COLOR : Display always color picture

AUTO : Automatic D/N switching according to ambient illumination.
Delay / D-N / N-D / Return Modes are provided.

EXT : Automatic D/N switching by using external signals.
IR LED (Photocell sensor) version must set with EXT mode.

B/W : Display always B/W picture
- IR Smart : IR Saturation Control. Set a designated value & area.

6) SMART 3D NR <On / Off>
- To reduce the background noise in a low luminance environment with 2D + 3D filtering system.

VALUE : Set the desired 3DNR value.
SMART NR : Set Smart NR On for the level and Sensitivity .
SMART LEVEL : Adjust Smart NR level (1-200 Steps).
SENSITIVITY : Set Smart NR sensitivity for activation.

7) F-DNR <AUTO / MANUAL/OFF>
- To defog when the video or the weather is foggy by controlling F-DNR level.

AUTO : Set the detect level for activation.
MANUAL : Set the detect level manually by adjusting level, Color Gain, Edge Gain, Gama value.

8) FUNCTION
8-1) MOTION :
- A signal is generated by the camera whenever motion is detected. You can define4 areas and control its sensitivity

8-2) PRIVACY :

To mask area which you want to mask. 8 areasselectable with 16 colors and controllable transparency.

8-3) D-EFFECT:
<D-Zoom/Smart D-Zoom/DIS/FREEZE/MIRROR/NEG. IMAGE>
- D-Zoom : Digital Zoom In / Out up to X32.
  PAN/TILT : Set Pan/Tilt location when D-Zoom is activated.
- Smart D-Zoom : Set the zoom in /out value upto X5.
  Range : Set the zoom in/out range from x2 to x5
  Position : Designate the zoom area. When a movement is detected, it automatically Zoom in/out with PIP.
  Sensitivity : Set the sensitivity level for activation.
  Time : Set your desired time value for display of Zoom in/out.
  * Smart D-Zoom will not be activated when D-Zoom is acting.
- DIS : Digital Image Stabilizer (On/Off)
  * DIS will not be activated when D-Zoom & Smart D-Zoom is on
- Freeze : To hold the image to analyze precisely.
- Mirror : Change the video direction. Mirror /V-Flip/Rotate
- Neg. Image : Negative Image (On/ Off)

8-4) IMAGE ADJUST
- Sharpness : Set the sharpness level of the picture (331 Steps)
- Monitor : CRT / LCD modes are provided
- LSC : Lens Shading Correction(On/Off)
- Defect : Activate this mode when "White Spot (Dead Pixel)"on screenis occurred.

8-5) COMM ADJ :
- CAM TITLE : To display a title on the monitor. (On / Off)
- PROTOCOL : To define a proper protocol for communication.
- RS-485 : Set Camera ID and Baud rate.

8-6) SYNC : Set the synchronization. If the power of the camera is AC, L/L will be provided

8-7) LANGUAGE : Set the proper language of Main Menu